IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A method comprising:

acquiring an image of or pertaining to a heart; and

registering a representation of a probe which is in or adjacent to the heart with the image using a heart vector of the heart, wherein the heart vector represents a summation of electrical currents at a particular time, the summation having a direction and an amplitude and generated from data acquired by a lead system at a surface of an imaged subject with the heart.

2. (Original) The method of claim 1, further comprising simultaneously displaying the registered image, the registered representation of the probe, and a map of the electrical properties of the heart.

3. (Currently Amended) The method of claim 2, wherein the image is acquired using computed tomography, magnetic resonance, ~~and/~~or ultrasound.

4. (Original) The method of claim 1, wherein the registering step comprises registering data pertaining to one or more locations of the heart vector which is correlated with the image with data pertaining to one or more locations of the heart vector which is correlated with the representation of the probe.

5. (Original) The method of claim 1, wherein the probe is configured to sense electrical information pertaining to the heart.

6. Cancelled.

7. Cancelled.

8. (Currently Amended) The method of claim ~~7~~12, wherein the registering includes registering the location of a first heart vector from the first data set relative to the lead system, registering a second heart vector from the second data set relative to the lead

system, ~~wherein the registering step comprises~~ and registering the first heart vector from the first data set ~~with~~ relative to the second heart vector from the second data set ~~for at least a portion of a cardiac cycle~~.

9. (Original) The method of claim 8, wherein the portion of the cardiac cycle comprises at least a portion of the QRS portion.

10. (Currently Amended) The method of claim ~~7~~12, wherein the probe is configured to sense the electrical properties of the heart.

11. Cancelled..

12. (Currently Amended) A method comprising:

acquiring an image of or pertaining to a heart;

acquiring a first data set pertaining to one or more locations of a heart vector of the heart, the first data set being spatially correlated with the image;

acquiring a second data set pertaining to one or more locations of the heart vector of the heart; and

registering a representation of a probe with the image by registering the location of the heart vector from the first data set with the location of the heart vector from the second data set~~The method of claim 7~~, wherein the second data set is acquired using at least one lead positioned on a skin surface, wherein the location of the heart vector from the second data set can be determined relative to the lead, and wherein the location of the probe can also be determined relative to the lead.

13. (Currently Amended) The method of claim ~~7~~12, wherein the image comprises one or more images obtained using computed tomography, magnetic resonance, ~~and/~~or ultrasound.

14. Cancelled.

15. (Currently Amended) The method of claim ~~7~~12, wherein the acquiring the second data step and the registering step are performed on a repeating basis.

16. (Currently Amended) A method comprising:

acquiring an image of or pertaining to a heart;

registering a location of a first heart vector from a first data set relative a lead system at a surface of an imaged subject, wherein the first heart vector represents a summation of electrical currents at a particular time, the summation having a direction and an amplitude;

registering a location of the second heart vector from the second data set relative to the lead system; and

adjusting the size ~~and/~~or position of the image ~~using a heart vector of the heart~~ dependent on a change in the location of the first and second heart vector generated from the first and second data sets, respectively.

17. (Original) The method of claim 16, further comprising registering a representation of a probe with an image, the probe being located in or adjacent to a heart.

18. Cancelled.

19. (Original) The method of claim 16, wherein the image is correlated to a first heart vector data set and the image is adjusted by comparing the first heart vector data set to a second heart vector data set.

20. (Currently Amended) A system comprising:

a lead system located at a surface of an imaged subject and operable to acquire a first data set and a second data set pertaining to one or more locations of a first and second heart vector, respectively, of the heart;

a processor configured to be communicatively coupled to a probe, the probe being configured to be located in or adjacent to a heart;

memory configured to store:

an image of at least a portion of the heart;

~~a~~ the first data set pertaining to one or more locations of ~~a~~ the first heart vector of the heart, the first data set being spatially correlated with the image;

~~a~~ the second data set pertaining to one or more locations of the second heart vector of the heart;

a display configured to display the image and a representation of the probe, the image being registered with the representation of the probe by registering the first heart vector from the first data set with the second heart vector from the second data set, wherein the location of the heart vector from the second data set can be determined relative to the lead, and wherein the location of the probe can also be determined relative to the lead.

21. (Original) The system of claim 20, wherein the display is configured to display a map of electrical properties of the heart in conjunction with the image and representation of the probe.

22. (Original) The system of claim 20, wherein the first and second data sets are obtained using a plurality of electrocardiogram leads.

23. (Currently Amended) The system of claim 20, wherein the representation of the probe is registered with the image by registering the first heart vector from the first data set with the second heart vector from the second data set for at least a portion of the cardiac cycle.

24. (Original) The system of claim 23, wherein the portion of the cardiac cycle comprises at least a portion of the QRS segment.

25. (Original) The system of claim 20, wherein the system is an electrophysiology monitoring system.

26. (Original) The system of claim 20, wherein the second data set is spatially correlated with the probe.

27. Cancelled.